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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jung-Fu Cheng

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COATS & BENNETT, PLLC

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RALEIGH, NC 27602

EXAMINER

STEIN, JULIE E

ART UNIT

PAPER NUMBER

2617

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.	Applicant(s)	
10/747,752	CHENG ET AL.	
Examiner	Art Unit	
Julie E. Stein, Esq.	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-28, 30-39 and 52-67 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-28, 30-39 and 52-67 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

### ***Drawings***

2. Figures 1 and 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The Examiner notes that Applicant continues to argue that the Figures show, for example, a base station that is a hybrid of known and new functionality. However, the Examiner maintains that nothing illustrated in the drawings, e.g. specifically shown in the Figures and identified by the Applicant in the particular Figures under discussion has been identified as new, and therefore, the drawings in their current form should be indicated as Prior Art. The objection is maintained.

***Specification***

4. The disclosure is objected to because of the following informalities: In the Brief Description of the Drawings, Figures 1 and 8 should indicate that they show known versions of a communications network and a base station respectively.

Appropriate correction is required. See reasons above.

***Claim Objections***

5. Claims 16-17 and 30-31 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. For purposes of this prior art rejection, claims 16-17 are being interpreted as being dependent on claim 1 and claims 30-31 are being interpreted as being dependent on claim 21.

***Claim Rejections - 35 USC § 112***

6. In view of the amendments to the claims and remarks, the rejections under this section are withdrawn.

***Claim Rejections - 35 USC § 101***

7. The previous rejection under this section is withdrawn. However, a new rejection is provided.

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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Claims 35-39 and 64-67 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 35-39 and 64-67 recite a computer readable medium, which Applicants define within their specification as "any medium that can contain, store, **communicate, propagate, or transport** the program for use by or in connection with the instruction execution system, apparatus, or device." As this definition appears to include defining the medium as a signal, then the definition includes a per se non-statutory class of natural phenomena--energy. Furthermore, it does not make a difference that the signal is encoded with functional material as the signal still does not fall within any of the categories of patentable subject matter and does not have a physical structure.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-14, 21-28, 35-39, and 52-67 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 00/70897 (WO).

WO discloses all the steps and elements of independent claims 1, 21, and 35, including a method, wireless communications mobile terminal, and a computer readable medium comprising a computer readable program embodied therein for a wireless communication mobile terminal, of reporting channel information in a wireless communication system, comprising: a mobile terminal (30) normally providing a basic

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channel report (page 4, lines 6 to 7 and page 11, lines 8-11), said basic channel report at least partially characterizing a downlink channel (page 2, lines 25 to 28 and page 4, lines 1 to 5 and page 11, lines 8 to 11); said mobile terminal receiving at least one common feedback criterion broadcast to a plurality of mobile terminals (page 11, line 18 to page 12, line 16 and page 10, lines 3 to 17); said mobile terminal determining if said mobile terminal satisfies a condition based on said at least one common feedback criterion (Figure 2 and the corresponding description) said mobile terminal selectively providing an enhanced channel report regarding said downlink channel based on said determining (Id. and Figures 3-4 and their corresponding description on pages 10 to 13); and wherein said enhanced channel report provides a more detailed view of said downlink channel than said basic channel report (Id.).

The rejections of 1, 21, and 35 are hereby incorporated. WO discloses all the steps and elements of independent claims 52, 58, and 64, including a method, a base station, and a computer readable medium comprising a computer readable program embodied therein for a wireless communication base station, of controlling channel information reporting in a wireless communication system, comprising: a base station (28) receiving a plurality of basic channel reports transmitted from a plurality of mobile terminals (page 11, lines 8-11 and page 10, lines 3 to 17), said basic channel reports at least partially characterizing one or more downlink channels from said base station (page 2, lines 25 to 28 and page 4, lines 1 to 5 and page 11, lines 8 to 11); determining, by said base station, at least one common feedback criterion (page 11, lines 17-18, Figure 3 and its corresponding description and Figure 5 and its corresponding

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description, disclose in the measurement control message including conditions); said at least on common feedback criterion helping to define a condition whose satisfaction controls which plurality of said plurality of mobile terminals subsequently transmit an enhanced channel report regarding one or more of said downlink channels to said base station (Id. and examples given in Figures 6 to 15); broadcast transmitting said at least one common feedback criterion from said base station to said plurality of mobile terminals (Id.); and wherein said enhanced channel report provides a more detailed view of said downlink channel than said basic channel report (Id.).

WO teaches all the steps/elements of claims 2 and 22, including wherein providing an enhanced channel report comprises providing an enhanced channel report that is a superset of said basic channel report. See 10, lines 24 to 26 and/or page 12, line 17 to page 13, line 10.

WO also discloses all the steps and elements of dependent claim 3, including wherein said at least one common feedback criterion comprises at least one threshold. See page 5, lines 11 to 21 and page 12, lines 12 to 16.

WO also discloses all the steps and elements of dependent claim 4, including wherein said at least one common feedback criterion comprises a channel quality indicator threshold. Id.

WO discloses all the steps of dependent claim 5, including wherein said at least one common feedback criterion comprises a throughput level threshold. See WO page 12, lines 12 to 16, traffic volume.

WO discloses all the steps of claim 6, including wherein said at least one common feedback criterion comprises at least one range. See WO page 14, lines 12 to 26.

WO also discloses all the steps and elements of dependent claims 7, 23, and 36, including wherein said basic channel report comprises a channel quality indicator. See page 5, lines 11 to 21 and page 12, lines 12 to 16.

WO also discloses all the steps and elements of dependent claims 8 and 24, including wherein normally providing a basic channel report comprises normally providing a basic channel report on a periodic basis. See page 11, lines 5 to 16.

WO also discloses all the steps of dependent claim 9, including wherein said mobile terminal selectively providing an enhanced channel report based on said determining comprises said mobile terminal selectively providing, on a periodic basis, either said basic channel report or said enhanced channel report based on said determining. See Figure 4 and corresponding description, in view of the measurement control message, the mobile station would send whichever report was required.

WO also discloses all the steps and elements of dependent claims 10, 25, and 37, including wherein said basic channel report comprises information related to a first set of one or more channel parameters of said downlink channel, and wherein said enhanced channel report comprises further information on said first set of channel parameters. See Figures 3-5 and their corresponding descriptions, the mobile station will report on the parameters that are requested by the base station in the measurement control message in the time frame determined in said message. The base station will



include the parameters and time frame desired in the measurement control message in order to increase the flexibility and optimize the operations of the system as a whole and to promptly and effectively respond to changing conditions within the system. See page 4, lines 20 to 27.

WO discloses all the steps and elements of claims 11-12, 26-27, and 38-39, including wherein said basic channel report comprises information related to a first set of one or more channel parameters of said downlink channel, and wherein said enhanced channel report comprises information related to a second set (or a first set of channel parameters and information related to a second set) of one or more channel parameters of said downlink channel different from said first set of channel parameters. See Id.

WO also discloses all the steps of dependent claim 13, including wherein said basic channel report comprises a channel quality indicator; and wherein said mobile terminal selectively providing an enhanced channel report based on said determining comprises said mobile terminal selectively providing either said basic channel report or said enhanced channel report based on said determining. See Id.

WO disclose all the steps and elements of dependent claims 14 and 28, including providing an explicit indication of the presence of said enhanced channel report when said enhanced channel report is provided. This is inherent in view of, for example, Figure 4, step 58.

WO also discloses all the steps and elements of dependent claims 53 and 59, including wherein determining at least one common feedback criterion comprises

determining at least one common feedback criterion based on at least a desired amount of enhanced channel reports. See pages 4 to 6, it is inherent that all of these conditions are predicated on the idea of limiting or having an ideal number of reports so that unnecessary signaling can be reduced and network optimization can be obtained.

WO discloses all the steps and elements of claims 54, 60, and 65, including wherein determining at least one common feedback criterion based on a desired amount of enhanced channel reports comprises determining at least one common feedback criterion based on said desired amount of enhanced channel reports and a data throughput rate. See *Id.* and see examples above and Figures 6 to 15.

WO also discloses all the steps and elements of dependent claims 55, 61, and 66, including wherein determining at least one common feedback criterion based on a desired amount of enhanced channel reports comprises determining at least one common feedback criterion based on said desired amount of enhanced channel reports and at least one reported channel quality indicator. See *Id.* and see examples above and Figures 6 to 15.

WO also discloses all the steps and elements of dependent claims 56 and 62, including wherein determining at least one common feedback criterion based on said desired amount of enhanced channel reports and at least one reported channel quality indicator comprises determining at least one common feedback criterion based on said desired amount of enhanced channel reports and a plurality of reported channel quality indicators. See *Id.* and see examples above and Figures 6 to 15.

WO discloses all the steps and elements of claims 57, 63, and 67, including an amount of data queued at said base station for transmission to a plurality of said plurality of mobile terminals. See page 5, line 15, traffic volume, which inherently would include a consideration of data queued at the base station.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 16-17, and 30-31 rejected under 35 U.S.C. 103(a) as being unpatentable over WO as applied to claims 1, 15, 21, and 29 above, and further in view of U.S. Patent Application Publication No. 2003/0123396 to Seo et al.

WO teaches all the steps and elements of claims 16-17 and 30-31, except employing a first spreading factor when transmitting said basic channel report and

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indicating the presence of said enhanced channel report by employing a different second spreading factor or pilot pattern when said enhance channel report is transmitted (than when said basic channel report is transmitted). However, Seo teaches in, for example, Figures 4 a way of off-setting via a different period the CQI information on the uplink HS-DPCCH channel and in Figure 9 the method of actually achieving this by using a mobile terminal to indicate the presence of specific CQI information—refreshment or refinement. See Figures 4 and 9 and the corresponding descriptions. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify WO by using the method of Seo to indicate the presence of the enhanced channel report by using two different spreading factors because the method of Seo indicates to the base station the type of CQI information being transmitted (in Seo, refinement or refreshment). See Figure 4.

14. Claims 18-20 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO.

WO teaches all the steps and elements of claims 18-20 and 32-34, except the various combinations of providing a basic channel report over a first logical channel and an enhanced channel report over said first logical channel, at least a second logical channel or where providing over the second logical channel includes selectively providing over said first logical channel and said second logical channel. However, one of ordinary skill in the art at the time the invention was made would have understood that the choice of logical channel for sending either of the basic channel report or the enhanced channel report would be based on resource allocations and volume traffic

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within the system at the time the given report was to be sent as well as the required bandwidth and necessary channel characteristics required for the reporting channel in view of the reports contents. Therefore, one of ordinary skill in the art at the time the invention was made would have known that various report schemes including various logical channel combinations would be used to provide the basic channel report and the enhanced channel report as claimed, depending on the system requirements at a given time and system loading.

### ***Response to Arguments***

15. Applicant's arguments with respect to claims 1-14, 16-28, 30-39, and 52-67 have been considered but are moot in view of the new ground(s) of rejection.

16. The Examiner notes that the indication of allowable material in claims 18, 20, 32, and 34 has been withdrawn in view of the rejection above.

17. As to claims 16-17 and 30-31, the Examiner has further clarified the rejection above to explain that it is the teaching within Seo of the two different types of CQI information, refreshment and refinement, and the way that these different types of information are indicated using channel spreading that is being combined with the primary reference and the knowledge of one of ordinary skill in the art to reject the claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie E. Stein, Esq. whose telephone number is (571) 272-7897. The examiner can normally be reached on M-F (8:30 am-5:00 pm).


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JES

ES

  
GEORGE ENG  
SUPERVISORY PATENT EXAMINER